

SEQUENCE LISTING

<110> Meiji Seika, Ltd.  
OKAKURA, Kaoru  
YANAI, Koji

<120> NOVEL CELLULASE RESISTANT TO SURFACTANT

<130> Q87626

<150> PCT/JP2003/014013

<151> 2003-10-31

<150> JP 2002-318303

<151> 2002-10-31

<160> 8

<170> PatentIn version 3.3

<210> 1

<211> 205

<212> PRT

<213> Humicola insolens

<220>

<221> mat\_peptide

<222> (1)..(205)

<400> 1

Gln Ser Gly Ser Gly Arg Thr Thr Arg Tyr Trp Asp Cys Cys Lys Pro  
1 5 10 15

Ser Cys Ala Trp Pro Gly Lys Gly Pro Ala Pro Val Arg Thr Cys Asp  
20 25 30

Arg Trp Asp Asn Pro Leu Phe Asp Gly Gly Asn Thr Arg Ser Gly Cys  
35 40 45

Asp Ala Gly Gly Gly Ala Tyr Met Cys Ser Asp Gln Ser Pro Trp Ala  
50 55 60

Val Ser Asp Asp Leu Ala Tyr Gly Trp Ala Ala Val Asn Ile Ala Gly  
65 70 75 80

Ser Asn Glu Arg Gln Trp Cys Cys Ala Cys Tyr Glu Leu Thr Phe Thr  
85 90 95

Ser Gly Pro Val Ala Gly Lys Arg Met Ile Val Gln Ala Ser Asn Thr  
100 105 110

Gly Gly Asp Leu Gly Asn Asn His Phe Asp Ile Ala Met Pro Gly Gly  
 115 120 125

Gly Val Gly Ile Phe Asn Ala Cys Thr Asp Gln Tyr Gly Ala Pro Pro  
 130 135 140

Asn Gly Trp Gly Gln Arg Tyr Gly Gly Ile Ser Gln Arg His Glu Cys  
 145 150 155 160

Asp Ala Phe Pro Glu Lys Leu Lys Pro Gly Cys Tyr Trp Arg Phe Asp  
 165 170 175

Trp Phe Leu Asn Ala Asp Asn Pro Ser Val Asn Trp Arg Gln Val Ser  
 180 185 190

Cys Pro Ala Glu Ile Val Ala Lys Ser Gly Cys Ser Arg  
 195 200 205

<210> 2  
 <211> 615  
 <212> DNA  
 <213> Humicola insolens

<400> 2  
 cagtcgga ggcggccgac cacgcgctac tgggactgct gcaagccgtc gtgcgcgtgg 60  
 cccggcaagg gcccgggcgc cgtgcggaacg tgcgaccggt gggacaaccc gctgttcgac 120  
 ggcggaaca cgcgagcgg gtgcgacgcg ggcggcggcg cctacatgtg ctcgaccag 180  
 agcccggtgg cggtcagcga cgacctggcg tacggctggg cgccgtcaa cattgccggc 240  
 tccaacgaga ggcagtgggt ctgcgcctgc tacgagctga ccttcaccag cgggccgggtg 300  
 gcgggcaaga ggatgattgt gcaggcgagc aacacgggag gcgatttggg gaacaaccac 360  
 tttgatattg ctatgcccg cggtggcgctc ggtatcttca acgcctgcac cgaccagtac 420  
 ggcgcgcccc ccaacggctg gggccagcgc tacggcgga tcagccaacg ccacgagtgc 480  
 gacgccttcc ccgagaagct caagcccggc tgctactggc gctttgactg gttcctcaac 540  
 gccgacaacc cgagcgtcaa ctggcggcag gtcagctgcc cgccgagat tgtggccaag 600  
 agcggtgct cgcgt 615

<210> 3  
 <211> 205  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> A detergent-resistant cellulase

<400> 3

Gln Ser Gly Ser Gly Arg Thr Thr Arg Tyr Trp Asp Cys Cys Lys Pro  
1 5 10 15

Ser Cys Ala Trp Pro Gly Lys Gly Pro Ala Pro Val Arg Thr Cys Asp  
20 25 30

Arg Trp Asp Asn Pro Leu Phe Asp Gly Gly Asn Thr Arg Ser Gly Cys  
35 40 45

Asp Ala Gly Gly Gly Ala Tyr Met Cys Ser Asp Gln Ser Pro Trp Ala  
50 55 60

Val Ser Asp Asp Leu Ala Tyr Gly Trp Ala Ala Val Asn Ile Ala Gly  
65 70 75 80

Ser Asn Glu Arg Gln Trp Cys Cys Ala Cys Tyr Glu Leu Thr Phe Thr  
85 90 95

Ser Gly Pro Val Ala Gly Lys Arg Met Ile Val Gln Ala Ser Asn Thr  
100 105 110

Gly Gly Asp Leu Gly Asn Asn His Phe Asp Ile Ala Met Pro Gly Gly  
115 120 125

Gly Val Gly Ile Phe Asn Ala Cys Thr Asp Gln Tyr Gly Ala Pro Pro  
130 135 140

Asn Gly Trp Gly Gln Arg Tyr Gly Gly Ile Ser Gln Arg His Glu Cys  
145 150 155 160

Asp Pro Phe Pro Glu Lys Leu Lys Pro Gly Cys Tyr Trp Arg Phe Asp  
165 170 175

Trp Phe Leu Asn Ala Asp Asn Pro Ser Val Asn Trp Arg Gln Val Ser  
180 185 190

Cys Pro Ala Glu Ile Val Ala Lys Ser Gly Cys Ser Arg  
195 200 205

<210> 4

<211> 205

<212> PRT

<213> Artificial Sequence

<220>

<223> A detergent-resistant cellulase

<400> 4

Gln Ser Gly Ser Gly Arg Thr Thr Arg Tyr Trp Asp Cys Cys Lys Pro  
1 5 10 15

Ser Cys Ala Trp Pro Gly Lys Gly Pro Ala Pro Val Arg Thr Cys Asp  
20 25 30

Arg Trp Asp Asn Pro Leu Phe Asp Gly Gly Asn Thr Arg Ser Gly Cys  
35 40 45

Asp Ala Gly Gly Gly Ala Tyr Met Cys Ser Asp Gln Ser Pro Trp Ala  
50 55 60

Val Ser Asp Asp Leu Ala Tyr Gly Trp Ala Ala Val Asn Ile Ala Gly  
65 70 75 80

Ser Asn Glu Arg Gln Trp Cys Cys Ala Cys Tyr Glu Leu Thr Phe Thr  
85 90 95

Ser Gly Pro Val Ala Gly Lys Arg Met Ile Val Gln Ala Ser Asn Thr  
100 105 110

Gly Gly Asp Leu Gly Asn Asn His Phe Asp Ile Ala Met Pro Gly Gly  
115 120 125

Gly Val Gly Ile Phe Asn Ala Cys Thr Asp Gln Tyr Gly Ala Pro Pro  
130 135 140

Asn Gly Trp Gly Gln Arg Tyr Gly Gly Ile Ser Gln Arg His Glu Cys  
145 150 155 160

Asp Ala Phe Pro Glu Glu Leu Lys Pro Gly Cys Tyr Trp Arg Phe Asp  
165 170 175

Trp Phe Leu Asn Ala Asp Asn Pro Ser Val Asn Trp Arg Gln Val Ser  
180 185 190

Cys Pro Ala Glu Ile Val Ala Lys Ser Gly Cys Ser Arg  
195 200 205

<210> 5

<211> 205

<212> PRT

<213> Artificial Sequence

<220>

<223> A detergent-resistant cellulase

<400> 5

Gln Ser Gly Ser Gly Arg Thr Thr Arg Tyr Trp Asp Cys Cys Lys Pro  
1 5 10 15

Ser Cys Ala Trp Pro Gly Lys Gly Pro Ala Pro Val Arg Thr Cys Asp  
20 25 30

Arg Trp Asp Asn Pro Leu Phe Asp Gly Gly Asn Thr Arg Ser Gly Cys  
35 40 45

Asp Ala Gly Gly Gly Ala Tyr Met Cys Ser Asp Gln Ser Pro Trp Ala  
50 55 60

Val Ser Asp Asp Leu Ala Tyr Gly Trp Ala Ala Val Asn Ile Ala Gly  
65 70 75 80

Ser Asn Glu Arg Gln Trp Cys Cys Ala Cys Tyr Glu Leu Thr Phe Thr  
85 90 95

Ser Gly Pro Val Ala Gly Lys Arg Met Ile Val Gln Ala Ser Asn Thr  
100 105 110

Gly Gly Asp Leu Gly Asn Asn His Phe Asp Ile Ala Met Pro Gly Gly  
115 120 125

Gly Val Gly Ile Phe Asn Ala Cys Thr Asp Gln Tyr Gly Ala Pro Pro  
130 135 140

Asn Gly Trp Gly Gln Arg Tyr Gly Gly Ile Ser Gln Arg His Glu Cys  
145 150 155 160

Asp Pro Phe Pro Glu Glu Leu Lys Pro Gly Cys Tyr Trp Arg Phe Asp  
165 170 175

Trp Phe Leu Asn Ala Asp Asn Pro Ser Val Asn Trp Arg Gln Val Ser  
180 185 190

Cys Pro Ala Glu Ile Val Ala Lys Ser Gly Cys Ser Arg  
195 200 205

<210> 6

<211> 27  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> A primer for site-directed mutagenesis  
  
 <400> 6  
 ggggaagggg tcgcactcgt ggcgttg 27  
  
  
 <210> 7  
 <211> 27  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> A primer for site-directed mutagenesis  
  
 <400> 7  
 cttgagctcc tcggggaagg cgtcgca 27  
  
  
 <210> 8  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> A primer for site-directed mutagenesis  
  
 <400> 8  
 gagctcctcg gggaaggggt cgcactcgtg 30